

GAO

Report to the Chairman, Committee on  
Finance, U.S. Senate

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# HEALTH CARE REFORM

## Considerations for Risk Adjustment Under Community Rating







United States  
General Accounting Office  
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Health, Education, and  
Human Services Division

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The Honorable Daniel P. Moynihan  
Chairman, Committee on Finance  
United States Senate

Dear Mr. Chairman:

Although most U.S. citizens have health insurance coverage, the Congress remains concerned that individuals with chronic health conditions may be unable to purchase health insurance at an affordable rate. To remedy this problem, some have proposed regulations that would prohibit insurers from denying coverage or charging different premiums to different individuals based on their health status. Under these regulations, an insurer must charge each potential beneficiary the same premium for a given insurance plan.

Such a system of "community rating" will affect both beneficiaries and insurers. Among beneficiaries, the healthy will subsidize the cost of care for the less healthy—raising existing premiums for some individuals and lowering them for others. For insurers, community rating will create financial incentives to attract only healthier clients because these people will (on average) pay more in premiums than they will generate in claims. Insurers' profits will depend more on the plan's ability to attract healthier beneficiaries and will be less responsive to efforts centered on providing high-quality service at the lowest price.

Risk adjustment can reduce the undesirable effects of community rating on insurers' incentives. Under risk adjustment, individuals pay the same premium regardless of their health status, but the premium payments received by the insurers are adjusted to reflect the differences in individuals' expected health care costs.<sup>1</sup> Although the major reform proposals call for risk adjustment, the specifics of how best to implement risk adjustment have not been thoroughly researched. Consequently, current health care reform proposals do not prescribe a specific methodology to implement the risk adjustment process.

Because of the congressional interest on this subject, you asked that we examine issues concerning risk adjustment under health care reform. Specifically, our objectives were to describe how the federal government's

<sup>1</sup>Risk adjustments are generally made prospectively, based on the individual's expected—rather than actual—health care costs. Therefore, risk adjustment can protect insurers against the predictable risk of insuring individuals with chronic conditions, but not against random, unexpected events.

previous experience with risk adjustment is relevant to implementing risk adjustment under health care reform and to identify features of health care reform that could affect the ability to adequately risk adjust. For our review, we collected and reviewed the literature on risk adjustment and interviewed risk adjustment experts. Our analysis also draws on our previous work on risk adjustment in the context of the Medicare risk contract program.<sup>2</sup>

## Results in Brief

Unless payments received by insurers are risk adjusted, the goal of community rating—to have affordable, comprehensive health insurance available to those who need it most—may be compromised. Community rating creates strong incentives for insurers to avoid the less healthy, which conflicts with the concept that community rating would expand access to those same beneficiaries. In addition, these incentives conflict with another goal—having insurers compete to provide the best quality services at the lowest price.<sup>3</sup> By mitigating or removing these incentives, risk adjustment can temper the unwanted consequences of community rating. However, the effectiveness of the risk adjustment will depend on the characteristics of the health care system in place. Unfortunately, past experience is insufficient to project which risk adjustment methodology would be best for any given reform proposal.

The federal government has more than a decade of risk adjustment experience through Medicare's risk contract program for health maintenance organizations (HMOs). However, the various reform proposals do not replicate many characteristics of the Medicare program. Therefore, the Medicare experience with risk adjustment should be interpreted cautiously. In Medicare's experience, a simple risk adjustment scheme proved insufficient to remove selection bias, leading researchers to suggest more complex methods. Although none of the major health care reform proposals details a specific methodology for risk adjustment, at least two recognize the possibility that health care reform may require a more complex methodology than that used for the Medicare program. Nonetheless, because of the significant differences between Medicare and health care reform, it is uncertain whether Medicare's risk adjustor, or any of the more complex alternatives, would be preferable under health care reform.

<sup>2</sup>See Medicare: Changes in HMO Rate Setting Method Are Needed to Reduce Program Costs (GAO/HEHS-94-119, Sept. 2, 1994).

<sup>3</sup>Over some period of time, such misplaced incentives for insurers could lead to lower quality, higher prices, and limited access for the less healthy.

Assessing the extent of the selection bias problem under the different reform proposals might help determine whether a simple or complex risk adjustment methodology might be more appropriate for a given proposal. However, such an assessment could be overwhelming because many aspects of health care reform can affect selection bias. Some of these aspects include the size and diversity of each risk adjusted pool of individuals, requirements that purchasing groups include types of HMOs and indemnity insurers, and the degree to which benefit packages are standardized. Other features of reform proposals could also affect the integrity of the risk adjustment process. For example, as the number of participants in the risk adjusted sector grows as a percentage of all beneficiaries, selection bias derived from excluding certain groups may decline, but the availability of useful data for risk adjustment would also diminish. Further, facets of some reform proposals—for example, overall spending limits or enhanced coverage for underserved populations—could distort the risk adjustment process so that payments to insurers do not closely reflect expected costs.

Because many of these features of health care reform are still untried, substantial uncertainty surrounds risk adjustment under health care reform. Although this uncertainty will undoubtedly make risk adjustment choices less obvious, these choices need to be made. Otherwise, selection bias would likely persist and ultimately undermine health reform's ability to meet its goals, such as expanded access and containing health care costs while maintaining quality. The necessity—as well as the uncertainty—of risk adjustment efforts seems to point toward a flexible system, continuously monitored and improved as the health insurance market continues to change.

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## Background

Some U.S. citizens have no health insurance. In addition, those who need health insurance the most—individuals with chronic illnesses—may lose their coverage, may be priced out of the health insurance market, or may be unable to obtain health insurance at any price. Responding to the inability of the sick to obtain health insurance, several health care reform proposals would implement a system of community rating—that is, insurers would be required to charge the same premium to all individuals in the same “community.”<sup>4,5</sup> Under community rating, for each health plan

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<sup>4</sup>Some reform proposals allow for “modified” or “adjusted” community rating, in which individuals’ premiums are allowed to vary from the community rate based only on age or sex (or both).

<sup>5</sup>For the purpose of setting premiums, communities can be defined by geographic area, employer, or membership in a purchasing cooperative or other organization.

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the relatively healthy members would subsidize the health care of the relatively sick—that is, the relatively healthy would pay premiums that exceed the expected cost of their care, while the relatively sick members would pay premiums that are insufficient to cover the expected cost of their care.

Since community rating drives a wedge between what an individual pays as a health insurance premium and the cost the insurer can expect to incur for his or her care, it alters the incentives of both consumers and insurers in the health insurance market. Healthy individuals would be less likely to want health insurance because they would generally pay significantly more than the costs they expect to avoid. Under New York's recently enacted community rating requirement, for example, some younger and healthier individuals have dropped their health insurance coverage because of increases in premiums. Insurers, however, would have an incentive to enroll these healthy individuals, again because their premiums would exceed the expected cost of their care.<sup>6</sup>

For the sick, the opposite would be true—health insurance would be a bargain for them as they could expect to receive more in health care than they would pay in premiums. Insurers would have an incentive to avoid such individuals—on average, these clients would generate more in health care costs than the insurer could expect to recover from their premiums. While insurers could not selectively increase prices to discourage the sick from enrolling, they could eliminate some discretionary services likely to appeal to sicker clients, like prescription drugs.

Requirements that all individuals obtain health insurance could prevent healthy individuals from opting out of the health insurance market, but universal coverage cannot eliminate insurers' incentives to increase profits by avoiding individuals expected to generate high health care costs. An uneven distribution of risk across insurers is often referred to as selection bias, and an insurer that succeeds in attracting only relatively healthy clients enjoys favorable selection. Selection bias can arise either because sicker people may be more or less attracted to a particular health plan or because insurers actively compete to enroll only the healthiest individuals.<sup>7</sup> Competition based on selection may result in some individuals being denied coverage; further, competition for favorable selection could also

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<sup>6</sup>Although insurers would be prohibited from offering discounts to healthier clients, they could provide additional services and benefits most likely to appeal to healthy clients, such as fitness memberships.

<sup>7</sup>For example, insurers could attract healthy clients by advertising their health plans in physical fitness publications.

distract insurers from competing in more beneficial ways—for example, by offering higher quality care at a lower price.

Regulatory or administrative provisions may help to limit selection bias. For example, several proposals prohibit insurers from denying coverage based on a pre-existing health condition. However, such regulations do not remove the incentive for insurers to court favorable selection—they only make such efforts more difficult. Risk adjustment, however, can reduce or remove the incentive to pursue favorable selection.<sup>8</sup> Under risk adjustment, insurers that attract a sicker-than-average pool of beneficiaries will receive payments (essentially from other insurers) that exceed what they collect in premiums, while insurers that attract a healthier-than-average pool will receive less than they collect in premiums.

The process for risk adjusting premiums involves three steps:

- Identify the risk adjustment variables—a variety of observable factors that can be used to estimate the expected cost of health care for each individual. Candidates for this collection of risk factors include age, sex, a measure of health status, and a measure of socioeconomic status.<sup>9</sup>
- Estimate the relationship between each of these factors and the cost of appropriate health care.
- Use these estimated relationships as a basis for transferring funds from insurers with (expected) low-cost risk pools to those with high-cost pools.<sup>10</sup>

<sup>8</sup>Risk adjustment may advance other purposes as well—for example, risk adjustment may be a necessary (although not sufficient) measure to guard the financial solvency of participating health insurers. In addition, risk adjustment could be used to direct resources towards particular populations. However, this use of risk adjustment may distort the risk adjustor's ability to guard against selection bias.

<sup>9</sup>Some health care costs arise because of unavoidable, unpredictable accidents. Although these unforeseeable costs do not create incentives for health insurers to seek favorable selection, the nonrandom, foreseeable variation in health care costs—such as that arising from chronic conditions—does create selection incentives. To succeed in reducing biased selection, the risk adjustment variables need only account for the nonrandom variation in health care costs. However, premium contributions could also be adjusted based on the insurer's prior or current expenditures. This type of adjustment, also called reinsurance, is designed to protect insurers not only from risk arising from nonrandom variation in health care costs but from risk arising from random events as well.

<sup>10</sup>Risk adjustment could be implemented for a given individual, family, or other designated unit. Each reform proposal recognizes that to minimize selection bias, the unit of risk adjustment should correspond to the level at which choice is exercised. For example, if an individual can choose coverage, then risk adjustment should occur at the individual level. However, if families as a whole choose coverage, then risk adjustment at the family level would also be appropriate.

While the concept of risk adjustment and the basic steps to implement it are well understood, a number of theoretical and practical issues must be resolved in designing a risk adjustment process for any given health care system. A federal, state, or local authority must specify the risk adjustment variables, collect data on these factors, conduct the estimation, and redistribute funds among insurers. Many health care reform proposals recognize the need for risk adjustment and mandate the development of a risk adjustment mechanism. However, none of these proposals specifies an explicit risk adjustment methodology. Instead, these proposals place the responsibility of specifying the risk adjustment mechanism with government agencies or quasi-public organizations. The health care reform proposals differ on the level—federal, state, or purchasing group—at which risk adjustment would be administered. In addition, under some proposals, risk adjustment would apply to the entire population, but in others, as much as 50 percent of the population may be beyond the reach of the risk adjustment requirement. (For a more detailed description of the implementation issues surrounding risk adjustment under health care reform, see app. I.)

Decisions on how to best implement risk adjustment are complicated by tradeoffs among desirable criteria for a risk adjustment process and also by the limited information available on alternative risk adjustment systems. Many potential risk adjustment systems remain untested, and those that have been implemented have been used under different circumstances from those any health care reform proposal might produce. In addition, resolving many of these risk adjustment issues would require judgments that may be best decided in a political context.

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## Principal Findings

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### Government's Experience With Risk Adjustment Is Limited in Both Scope and Success

Selection bias has been a serious concern in both the Medicare program and the Federal Employees Health Benefits Program (FEHBP). In FEHBP, premiums for a given insurance plan vary based on the past experience (and thus the health status) of the plan's enrollees. This has resulted in some plans—that attract sicker enrollees—charging substantially higher premiums than other plans that have succeeded in attracting healthy clients. In addition, incentives for FEHBP insurers to attract healthy clients appear to have discouraged insurers from offering more generous benefit



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packages to federal workers. These consequences of selection bias have prompted some analysts to recommend that FEHBP incorporate risk adjustment.

In Medicare's risk contract program for HMOs, concern over favorable selection led to the establishment of a risk adjustment system. In fact, that system provides the government's longest running experience with risk adjustment (over 10 years).<sup>11</sup> To guard against selection bias in this program, Medicare uses risk adjustment to modify HMO payment rates based on beneficiaries' age, sex, Medicaid eligibility, and whether the beneficiary is in a nursing home. However, despite both risk adjustment and extensive administrative controls, HMOs in the Medicare risk contract program have continued to benefit from favorable selection. Responding to this problem, analysts have urged Medicare to include a measure of health status, in addition to demographic variables, in its risk adjustment process.<sup>12,13</sup> However, the lessons to be learned from the government's experience with Medicare are limited by the extensive differences between the Medicare risk contract program and the health care reform proposals. Consequently, Medicare's experience does not readily address several issues under health care reform.

Specifically, while the Medicare program provides health care to the population aged 65 and over,<sup>14</sup> under health care reform, one payment system may cover people of all ages. This difference in the population included may limit the conclusions we can draw from Medicare about specific risk adjustment mechanisms. For example, a risk adjustor that performs well in the over 65 population may be less successful at preventing selection bias in the overall population.<sup>15</sup> Further, under the Medicare program, both beneficiaries and health insurers can choose to remain outside the risk adjusted (HMO) sector. This freedom of movement can amplify the selection bias problem, as individuals can quickly change health plans if they become ill and insurers can exit the small risk adjusted

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<sup>11</sup>For more information about risk adjustment under the Medicare risk contract program, see Medicare: Changes to HMO Rate Setting Method Needed to Reduce Program Costs.

<sup>12</sup>For example, alternative measures of health status could be based on diagnosis codes, prior use of medical services, or self-reported health status.

<sup>13</sup>For a description and an evaluation of these alternative proposals concerning the Medicare program, see Medicare: Changes to HMO Rate Setting Method Needed to Reduce Program Costs.

<sup>14</sup>Certain disabled people under 65 are also eligible for the Medicare program, but 89 percent of Medicare beneficiaries are aged 65 or over.

<sup>15</sup>For example, a risk adjustment mechanism based on inpatient (hospital) data may better suit the over 65 population, in which hospitalization is more frequent, than the under 65 or overall populations.

sector if they are not profiting sufficiently. Under health care reform, individuals may not have the ability to move in and out of the risk adjusted sector, and a health plan that does not participate in the local risk adjustment pool may find itself out of the market in that entire geographic area. In addition to these differences, risk adjustment may also affect (or be affected by) other provisions of health care reform—such as overall spending limits, the structure of purchasing cooperatives, the availability of necessary data, and other factors. The regulations and the structure of the different reform proposals may provide the only real basis for a discussion of these issues.

### Criteria to Evaluate Alternative Risk Adjustment Proposals

In our work on risk adjustment in the Medicare risk contract program, we identified operational criteria for evaluating alternative risk adjustment schemes. Specifically, a good risk adjustment scheme would (1) be able to predict health care costs with accuracy, (2) treat participating HMOs reasonably and fairly, (3) be difficult for participating health plans to manipulate, (4) respect patient privacy and confidentiality, (5) create incentives for appropriate care, and (6) be feasible and inexpensive to administer. Tradeoffs exist among these criteria, making it more difficult to choose the best risk adjustor. For example, a more complex risk adjustment method may be more successful in reducing favorable selection, but may do so only at a relatively high administrative cost.

Any evaluation of alternative risk adjustment systems using these criteria must be made in the context of the health care system as a whole. For example, the potential for selection bias can affect the choice of risk adjustment mechanism. If the health care system is designed to minimize selection bias (for example, if the administrative means against selection bias are particularly strong), then less predictive power is required of the risk adjustor, and a simpler system, which minimizes administrative burden, may suffice. However, if the structure of the health care system leaves substantial room for selection bias, greater demands will be placed on the risk adjustment system. In these circumstances, a more sophisticated, complex risk adjustor may be required. Other features of the health care system may also affect the optimal risk adjustment choice. For example, if Medicaid and Medicare beneficiaries are included in the risk adjustment sector, the risk adjustment variables must account for factors that drive health care costs in the elderly and low-income populations. In addition, administrators' ability to successfully risk adjust may depend on the availability of extensive data on both individual risk factors and on the cost of providing appropriate medical care. Features of

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the health care system—such as providing new services or imposing global spending limits—that may constrain data availability could thus make risk adjustment more difficult.

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### Features of Health Care Reform Could Determine the Effectiveness of the Risk Adjustment Process

The extent of selection bias under health care reform remains unknown. Medicare's experience indicates that selection bias can persist under a health care system with administrative controls and demographically based risk adjustment. However, the extent of selection bias under health care reform will depend on many features, each of which differs among the various health care reform proposals. Selection bias will result when "good" and "bad" risks can be easily distinguished and separated for insurance purposes. This market segmentation can result from both insurers' and consumers' choices, but the structure of the health insurance market can restrict or expand those choices. For example, provisions that restrict insurers' ability to design benefit packages that attract healthy individuals (for example, by including health club memberships) can cut selection bias; regulations that limit individuals' ability to change insurers can also reduce selection bias. In addition, if the risk adjusted sector contains a diverse group of healthy and sicker individuals, risk adjustment within that sector can distribute payments based on the cost of providing care. However, if the healthy and sick individuals are divided into separate sectors, risk adjustment within each sector will be insufficient to distribute financial risk, and the pools containing the high-risk clients will have to increase premiums to maintain these individuals' coverage. This phenomenon remains a serious concern in the FEHBP program. (For a more detailed discussion of the relationship between market segmentation, selection bias, and consumer choice, see app. II.)

### Data Constraints May Limit Administrators' Ability to Effectively Risk Adjust

Risk adjustment involves identifying risk-related factors (such as age, sex, and health status) that are observable and useful in predicting individuals' expected cost of appropriate care. Difficulties in implementing risk adjustment may arise because both these concepts—the risk-related factors and the expected cost of appropriate care—are difficult to measure. Estimates of the relationship between the two—when each is observed imperfectly—accordingly become less precise. In addition, efforts to improve the risk adjustment process by including more and better risk-related measures may involve tradeoffs in higher administrative burden, less equity of burden across regions, and greater exposure to violations of privacy and confidentiality standards. (For a more detailed discussion of data issues involved in risk adjustment, see app. III.)

## Risk Adjustment Process Can Be Complicated by Spending Limits and Redistribution Efforts

Several health reform plans would establish spending limits to hold down health care costs, and some reform proposals would provide increased payments for hard-to-serve areas or populations. Whatever the benefits of these two proposals, each could disrupt the link that risk adjustment establishes between the cost of health care and the payments health insurers receive. As part of the risk adjustment process, measures of risk-related factors are assigned numerical weights that correspond to the relationship between these factors and health care costs. Each factor's weight is determined by statistical analysis. If the weights are determined by an overall administrator, rather than by statistical estimation, the resulting payment rates for participating health plans will correspond less closely to expected health care costs. Such a disparity between payment rates and expected costs provides an increased incentive for insurers to pursue selection strategies.

For example, the effect of increased payment rates for hard-to-serve areas or populations may also affect the factor weights for risk adjustment. Specifically, to the extent that the increased payments reflect any additional health care costs associated with serving these areas or populations, the determination of those increased payments would appropriately be done statistically through the risk adjustment process.<sup>16</sup> However, if a greater share of beneficiary premiums are diverted to hard-to-serve areas, but this reallocation does not reflect health care costs, the risk adjustment factors will be distorted.

A binding spending limit (also called a global budget), combined with universal care, can intensify selection incentives. When universal care and global budgets are combined, one provider's gain is another's loss—for every provider who successfully avoids a high-cost patient, another provider must treat one. Therefore, having an accurate risk adjustor to remove the incentive to avoid the high-cost patient can become more important. However, the global budget may make it more difficult to calculate the risk adjustor accurately.

When the global budget becomes binding, payment reductions must be distributed so that insurers are still compensated accurately for the cost of providing appropriate care to sicker individuals. Whether these limits are structured to reduce plan payment rates by a fixed percentage or by a fixed amount per individual, they may distort the relationships between risk adjusted payments and the cost of appropriate care. In addition, the

<sup>16</sup>However, incorporating these additional services into risk adjustment may be difficult. Currently, the services associated with these additional costs have often gone unprovided. Therefore, data necessary to incorporate this cost into the risk adjustment process are not yet available.

global budget may constrain some sectors of the health care system (hospitals or physicians, for example) more than others. Treatment that requires more extensive resources from these sectors will be constrained, and therefore the limited payment received by the insurer for treating such cases may be insufficient to cover the cost of appropriate care for that individual. In this case, then, risk adjustment will not remove the incentive for the insurer to discourage such people from enrolling, and insurers who enroll large numbers of such people will be at a financial disadvantage compared to other insurers.

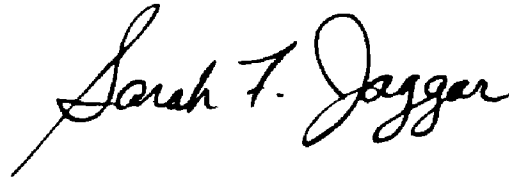
## Conclusion

In a community rating environment, payments to health insurers should be risk adjusted. Without an effective risk adjustment system, selection bias will ultimately undermine the health care system's ability to achieve its goals—including expanded coverage and cost containment. However, choosing among available risk adjustment methods will be difficult in the context of health care reform because the new health care system is not yet developed. Although no one aspect of health care reform will forestall effective risk adjustment, its success will depend on numerous features of the health care system in combination. Therefore, anticipating how effective any risk adjustor will be under any given reform proposal is impossible. Given this uncertainty, those responsible for choosing a risk adjustment mechanism should consider the interdependence between risk adjustment and specific features of the health care system. In doing so, they should also recognize the desirability of considering alternative risk adjustment methodologies on a continuous basis and particularly as the new health care system evolves.

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As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time, we will send copies to interested congressional committees and make copies available to others on upon request. If you or your staff have any questions about this report, please contact me at (202) 512-7119. Major contributors to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink, reading "Sarah F. Jaggar". The signature is written in a cursive style with a large, flowing "S" and "J".

Sarah F. Jaggar  
Director, Health Financing  
and Policy Issues



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## Abbreviations

FEHBP	Federal Employees Health Benefits Program
HMO	health maintenance organization





# Health Care Reform Proposals Call for Risk Adjustment, but Reflect Uncertainty About Its Potential Effectiveness

Many health care reform proposals would impose some form of community-rated premiums, so that health insurers could not charge different prices to members of the same group. Further, because these proposals generally recognize that community rating can create incentives for insurers to avoid high-cost individuals, they incorporate provisions for risk adjustment. However, despite this general agreement that risk adjustment is necessary, none of these proposals specifies an explicit risk adjustment mechanism. In addition, these bills vary in how they would implement a risk adjustment system, how much they would rely on administrative or regulatory means to reduce selection bias, and how much of the insured population would be subject to risk adjustment.

## Major Health Bills Do Not Specify Risk Adjustment Formula

The health care reform proposals do not specify the variables to be used for risk adjustment. Instead, these bills assign the task of developing a risk adjustment formula to some government or quasi-governmental entity—for example, the Department of Health and Human Services or the National Association of Insurance Commissioners. At least two proposals suggest that the risk adjustment formula might include demographic characteristics, health status, geographic area of residence, socioeconomic status, and the proportion of residents in a given area who receive welfare benefits from Supplemental Security Income or Aid to Families with Dependent Children. However, although both proposals specifically mention this list of variables, neither of these two proposals specifies how health status or demographic characteristics are to be measured.

## Health Care Reform Proposals Differ in How They Assign Risk Adjustment Responsibilities

While each of these major health care reform proposals calls for risk adjustment, the bills differ on several key implementation questions. Specifically, the proposals differ in the level—federal, state, or local—at which risk adjustment would be developed and implemented. Although some proposals would develop a risk adjustment mechanism at the federal level, they generally allow states considerable flexibility—for example, several proposals would allow states to use a different set of risk adjustment factors from those identified at the federal level.<sup>17</sup> Furthermore, some proposals specifically allow for adjustments to the risk adjustment formula to increase the access of traditionally underserved populations to health care.

<sup>17</sup>Under most of these bills, states must gain the permission of the federal government before exercising this flexibility.

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## **The Extent of Risk Adjustment Varies Across the Reform Proposals**

The various health care proposals also differ in the extent of the population subject to risk adjustment. For example, under several bills, the risk adjustment mechanism would be applied only to that segment of the population enrolled in the purchasing groups that the bills create. Between 20 and 50 percent of the population would likely obtain health insurance outside of the purchasing groups and thus would be beyond the reach of both the risk adjustment and community rating requirements. In contrast, several other proposals call for risk adjustment of insurance premiums for the entire population.

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## **Proposed Bills Also Rely on Regulations to Limit Selection Bias**

The major health care reform proposals would rely on regulatory or administrative means, in addition to risk adjustment, to limit selection bias. The comprehensiveness of these administrative means would affect the seriousness of the selection bias problem and would thus help to determine how accurate the risk adjustor must be. For instance, most reform proposals would (1) prohibit or reduce insurers' ability to limit or deny coverage based on a pre-existing medical condition, and/or (2) limit insurers' ability to use marketing to attract healthy clients and discourage sicker ones.

# Diversity of Population and Range of Choices in Risk Adjusted Sector Will Affect Extent of Selection Bias Problem

The size of the risk adjusted sector (state or purchasing group, for example) is not necessarily crucial to the risk adjustor's success. Because risk adjustment is designed to capture only nonrandom variation in health care costs, increasing the size of the risk adjustment pool will not by itself cut selection bias.<sup>18</sup> However, the diversity of the population to which risk adjustment applies will affect the potential for selection bias. If populations within risk pools are diverse, the resulting selection bias can be mitigated by risk adjustment within that pool. However, if population diversity extends largely across risk pools, those pools containing the high-risk clients will have to increase premiums to maintain coverage.

## Corporate Opt-Out Provisions and Geographic Boundaries May Affect Diversity of Risk Pool

Several health care proposals would allow or require corporations over a certain size to provide insurance outside a regional purchasing group. These corporations would have an incentive to opt out of the regional purchasing groups only if they expect to save money by doing so. Companies with healthier-than-average workforces would generally have this incentive as their employees will use fewer health care services than the average person in the risk adjusted purchasing group pool. Therefore, a system that allows for greater choice in purchasing group participation may create more opportunities for selection bias. If some firms can opt out, or if joining the purchasing group is completely voluntary, then the firms with lower health costs are more likely to be concentrated in the corporate plans, and the firms and individuals with higher costs may all end up in the regional purchasing group. Under these circumstances, risk adjustment within the purchasing group is not sufficient to distribute risk across health plans in the overall health care system. In addition, firms that opt out of the purchasing group (and negotiate lower community rates than available in the purchasing group) may base future employment decisions—about both hiring and retention—on expected health care costs, preserving a distortion present in the current employer-based system. This result would conflict with a goal of several health reform proposals—reducing “job lock” among employees.

Another factor affecting the inclusiveness in the risk adjustment pool is the geographic area over which this pool is defined. Larger geographic areas are likely to be more diverse in health status and utilization patterns, increasing the demands on the risk adjustment system. However, smaller purchasing groups may make risk adjustment within each individual purchasing group—no matter how sophisticated—insufficient to

<sup>18</sup>However, increasing the size of the pool may help insure health plans against random risks. A reinsurance mechanism, designed to protect insurers' financial solvency against random risk, may thus be more important for areas and insurers with small populations.

adequately reduce incentives for selection. If health status is relatively homogeneous within the purchasing group, but diverges across purchasing group boundaries, purchasing groups of higher cost consumers will have to charge higher premiums to maintain coverage and health plans may choose not to participate in higher cost risk pools or health purchasing groups.<sup>19</sup>

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## Restrictions on Consumer Choice May Affect Extent of Selection Bias

Segmentation within the risk adjustment pool could result not only from the actions of insurers, but also from the voluntary choice of consumers. Sicker consumers may flock to one insurer based on its reputation, choice in physicians, or benefits. For this reason, the extent of the selection problem will depend not only on the population within the risk adjustment pool but the choices available to consumers. As a result, the type of health plans available in a given local area may increase or decrease the potential for selection bias.

For example, traditional fee-for-service plans, which offer fewer restrictions on physician choice, may attract a sicker clientele than a staff model HMO, where patients are treated in clinics by staff physicians. Similarly, health plans that contract with specialized academic medical centers may attract the more severely ill, creating a greater need for risk adjustment. Therefore, the diversity in the type of plans available in a given geographic area may influence the degree of selection bias there. If a geographic area contains many small staff-model HMOs and one large fee-for-service plan, we may expect to see more selection bias in this purchasing group than in a comparable area served by an array of health care plans, including Independent Practice Association managed care plans and HMOs with point-of-service options. Under a point-of-service plan, HMO beneficiaries have the option of receiving care outside of the HMO for an additional fee. Point-of-service plans may reduce the potential for selection bias if they reduce the reluctance of sicker individuals to join HMOs.

Selection bias can also be influenced by individuals' ability to change their health insurers. Selection bias can arise when individuals change health plans because of changes in health status—for example, an individual enrolled in an HMO who is diagnosed with a serious illness may decide to join a fee-for-service plan with no restrictions on the choice of specialists. Restrictions on when an individual can change health insurers can help

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<sup>19</sup>For a more extensive discussion of geographic boundary issues in health care reform, see *Health Care Alliances: Issues Relating to Geographic Boundaries*, (GAO/HEHS-94-139, Apr. 8, 1994).

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**Appendix II**  
**Diversity of Population and Range of**  
**Choices in Risk Adjusted Sector Will Affect**  
**Extent of Selection Bias Problem**

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contain selection bias by limiting this switching behavior.<sup>20</sup> Such regulations have disadvantages, however. Disenrollment restrictions could prevent consumers from leaving a poor-quality health plan, and could also discourage some consumers from joining a managed care plan or a newer, less established health plan.

Selection bias can also be affected by variation in insurers' benefit packages. Health insurers can manipulate benefit packages to create opportunities for favorable selection. When a health insurer has information on consumers' willingness to pay for extra benefits, the insurer can use this information for selection purposes. For example, sicker people (who expect to use a lot of prescription drugs) are more likely to look for a health plan with a more generous prescription drug benefit—however, health plans will have an incentive to discriminate against people who want such a benefit.

Although variation in benefit packages can allow insurers to better respond to consumer needs, benefit package variation may also exacerbate favorable selection and reduce price competition between health plans. Because of these variations in individuals' demands for different services, benefit package variations may also make consumers less responsive to differences in the prices of various plans. For example, the parents of a child with a psychiatric disorder will likely restrict their choice of health plan to those including family mental health benefits. The FEHBP program has seen insurers become less willing to offer more generous benefits—such as mental health coverage—out of fear that such benefits will attract a sicker population, driving up prices and limiting the plan's appeal to federal workers.

Several of the major health care reform bills would impose some degree of benefit package standardization—most with a minimum benefit package. If the minimum benefit package is relatively generous, this may help limit selection bias because insurers will be less able to discriminate among consumers based on their willingness to pay for certain services. However, a more generous benefit package would also be more costly—therefore, gains from reducing selection bias this way are not free.

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<sup>20</sup>For example, federal employees are allowed to change their health insurer only once a year, unless there is a change in family composition.

# Data Constraints May Limit Administrators' Ability to Effectively Risk Adjust

To discourage health insurers' efforts to court favorable selection, the risk adjustment process must sufficiently narrow the difference between the cost of a sicker person's care and the premium received by the insurer. If the difference between payment received and the cost of care is small, it may be more costly for the insurer to attempt a selection strategy (through marketing, for example) than simply to accept clients without regard to health status. Given this goal, risk adjustment administrators might want to get more rather than less data, as they might reasonably assume that including a larger set of risk-related factors in the risk adjustment process will result in improved predictions of health costs. However, these authorities must also recognize that adding data to the risk adjustment process involves important tradeoffs.

Clearly, adding data to the risk adjustment process will mean a greater administrative burden. For example, such additional data could be obtained by survey, more complete record taking, or construction from currently available data sources. Gathering data through any of these methods would increase administrative costs. Further, as additional data are included in the process, the costs of ensuring data accuracy would also increase.

Applying risk adjustment in different geographic regions also presents data issues. Across the nation, some costly health ailments occur more frequently in some geographic areas than in others. Therefore, the optimal set of risk-related factors is likely to vary across regions. For example, a risk factor that identifies people with black lung disease may prove to be an important indicator of expected health costs in West Virginia, but not in California. Further, as the optimal risk factors vary across regions, so will the corresponding administrative costs associated with gathering the risk adjustment data. In these circumstances, risk adjustment authorities may need to address a conflict between a process that imposes a similar administrative burden across regions versus one designed to achieve greater predictive ability in each region.

One last tradeoff may exist between the need to use data on certain risk-related factors and social concerns about privacy and confidentiality. For example, data on individuals' health or socioeconomic status could be the subject of such concerns. The need to use such data for risk adjustment could arise because of a legislative mandate—but even without a mandate, the inclusion of such data may be necessary for the risk

adjustment process to predict costs well enough to deter participating plans from pursuing selection strategies.<sup>21</sup>

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## Measuring the Cost of Appropriate Health Care

The concept of appropriate care is central to risk adjustment. Ideally, the risk adjustment process should result in setting plan payment rates at appropriate care cost levels. This would discourage the provision of unnecessary treatment. Unfortunately, while setting reimbursement at appropriate care levels may discourage overutilization, it cannot control underutilization and thus cannot ensure that appropriate care is provided.<sup>22</sup> In any event, direct measures of the cost of appropriate care are not yet available.

Because there is no consensus on what constitutes appropriate care, no certainty can be associated with any estimates of its cost. Observed or reported costs may overstate or understate what costs would have been for appropriate care. From a practical standpoint, even if appropriate care could be adequately described, there may still be reporting or accounting-related obstructions to observing the cost of appropriate care. For example, if a hospital reallocates the costs of those who cannot pay among those who can, then the actual costs of appropriate care will not be directly observable.

Absent reporting or accounting complications, just how closely observable costs will correspond to the costs of appropriate care depends on the structure of health care markets. In a highly competitive market, price-conscious consumers and suppliers would limit providers' ability to charge prices that substantially exceed their costs. If, however, some providers are able to exercise monopoly power in their pricing of services, then observed charges or billings would not be an accurate reflection of actual costs, even if those costs were for appropriate care. Because the current market is less than competitive, observable prices are unlikely to fully reflect the cost of appropriate care. If the market were to become even less competitive under health care reform, this divergence could widen.

In addition, if the risk adjustment process is to successfully link individual characteristics to the cost of appropriate care, the cost data should be

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<sup>21</sup>For example, researchers have concluded that incorporating some measure of health status in the risk adjustment process for the Medicare risk contract program will be necessary to deter participating plans from pursuing favorable selection.

<sup>22</sup>Quality assurance may be achieved through other means, however—such as performance review and published quality reports.



obtained from a market that is at once representative of and isolated from the risk adjusted market area. A representative data set ensures that risk adjusted payments will reflect the characteristics of the affected market. Finding a representative sample may be more or less difficult for some markets, depending on the characteristics of individuals inside and outside the risk adjusted sector.

Cost data used in the risk adjustment process should be obtained from markets outside of the risk adjusted sector. (Obviously, the larger the population in the risk adjusted sector, the more difficult it will be to obtain such data.) The separation is necessary to help ensure that the risk adjustment data have not been affected or determined by previous risk adjustment efforts. Specifically, and depending on the relationship between insurers and providers, risk adjusted payment rates of the previous period could affect the costs that are then used to risk adjust payment rates for the next period. This could occur because insurers might arrange to reimburse providers only for amounts not to exceed those implied by the adjusted payment rates, and providers might insist on reimbursements that are no less than those implied by the adjusted payment rates. In effect, the adjusted payment rates could effectively establish both upper and lower limits on costs inside the risk adjusted sector.<sup>23</sup> The existence of such limits would imply that costs would be unresponsive to changing market conditions and therefore may diverge further from appropriate care. Although this possible inbreeding of risk adjusted payment rates need not cause irreparable harm to the operation of a new health care system, it could exact a hidden cost by discouraging the rapid adoption of new innovations or by preserving an inefficient alignment of health care resources.

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<sup>23</sup>Typically, however, each risk adjusted payment rate would not correspond to a specific service. Rather, each rate would relate to a group of services taken as a whole, and this allows the desirable consequence of some price flexibility among specific services within each group, even when reimbursement rates effectively limit charges for the group as a whole. Fewer groups that each offered of a greater variety of services would translate into greater price flexibility. However, fewer groups would be less desirable to the extent that they represent less precise risk adjustment of payment rates.

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